macdonald FARM journal

The Grass We Grow

Review of the Dairy Industry

March, 1965

THE MACDONALD LASSIE

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OUR COVER: Curling grows in popularity as a winter sport at Macdonald College. (Photo by Kenneth Bowe)

INSIDE

THE EDITOR'S COLUMN

Can It Be Saved?

WATER. IT CAN be majestic as it flows toward the sea on a moonlight night. It can be refreshing as you dive into it on a hot day in July. It is life-giving and purifying. It is productive when mixed with soil and sunshine. It can be powerful when it churns through an electrical generating station. The St. Lawrence River is all this and more — a mighty artery that keeps Quebec living. Yet the St. Lawrence and its tributaries are in trouble. Water levels are decreasing and pollution is increasing to the critical point when it is time to start respecting the value of water rather than accepting it as a right.

In the last few years there has been an increasing awareness of the diversity of water problems that must be faced in Quebec and Ontario. Some of this attention has arisen by the discussion of the Columbia River Project, the South Saskatchewan River Dam and the proposal to divert the James Bay watershed to the Great Lakes.

It now appears that some people and some governments are ready to listen to the cries of the few who realize the sad state of affairs. In February, a major conference discussed the effects of lower water levels in the St. Lawrence on shipping. The Canadian Conference of Resource Ministers has been attempting to co-ordinate water conservation activities across Canada but water is only one of their worries.

What has done more than anything else to bring the current water shortage to the attention of the public, has been the publicity given to the need for water in the production of food. Some farmers in the Chateauguay Valley have been hauling water to their livestock since last fall. Wells are dry, farm ponds are empty. Yet, authorities continue to hassle over who is going to be responsible for licensing public beaches and who is going to police pollution.

For the protection of everyone, why can't there be a St. Lawrence Valley Conservation Authority to be responsible for the conservation of water in the St. Lawrence and all its tributaries? This could be a joint authority administered by the governments of Quebec and Ontario. It could be responsible for conservation dams, irrigation permits, pollution control and the maintenance of satisfactory water levels. We need a central authority to make sure that what has to be done to protect the water we have, is done now.

By 1980, our water needs will nearly double. If the water shortage is alarming now, what will it be like in ten years time. While it's not likely that Quebec will become a desert, one can't help but wonder about the day when we have to pay 40 cents a gallon for water . . . and have it dispensed like gas.

Mark Waldron

Subject Promotion in Home Economics

by Marilyn Findlay
School of Household Science

IT HAS BECOME apparent from the recent Parent Royal Commission on Education, made public on November 20, 1964, that numerous changes are about to take place in the field of education.

In view of certain recommendations of the commission, it is certain that the system of subject promotion, now in practice throughout some of the schools in the province, will be in effect.

What does subject promotion mean? Clearly, by its name, it means promotion by subject, not by grade. This means that a student, after being carefully "streamed" into a course level related to his own capabilities, pursues his studies on an individual timetable basis. In effect, he progresses at his own rate, not that of his fellow students.

Each year of high school has certain compulsory subjects which must be completed before the student may progress to the next level. However, there are many elective subjects available to the student. These subjects are taught daily, and thus two years work may be concentrated into one year. If a student is unable to fit anyone particular course into his timetable during a certain year, it would be possible to do so another year, without missing any of the necessary material. One elective subject may be substituted for another, if the student finds that he has not chosen a course to which he is suited. This means that a student cannot be held back by a non-compulsory subject which he is unable to complete.

One of these electives available in most schools to the girls, and I hope eventually to the boys, is Home Economics. It is by no means a new subject. In fact, for years, "cookin' and sewin'" have been synonymous with the miniature loaf of bread or the ever faithful laundry bag carried proudly home for mother's inspection.

Changes in Family Needs

Naturally, the preparation of food and the ability to do home sewing, is still of great importance to the homemaker. However, this in itself is not enough. If Home Economics is to fulfill its role of preparing individuals for better family life, it must realize the needs of today's family in a modern, fast-moving world.

Anyone is forced to admit, that with all the many "convenience" foods and ready-made articles available on the market, there is no longer as great a need for the teaching of basic skills in cooking and sewing. Rather, is it not more important to teach how to select and purchase, how to judge a bargain and how to handle these goods brought into the home? When more parents are both occupied in positions outside the home, is it not important to stress the budgeting of time, physical energy and money?

Marilyn Findlay, School of Household Science, Macdonald College.

All these topics and others are concerned in the Home Economics curriculum as it is taught presently in our schools.

Under the system of subject promotion, the varied curriculum remains the same. There are, however, many changes necessary in order to adjust the course to the teaching hours; for although there is more time devoted to the subject, each class period is much shorter. The time varies from as little as 40 minutes to rarely more than 50 minutes per day. Taking into account the time required for students to change classes and uniforms, this leaves very little time for laboratory work.

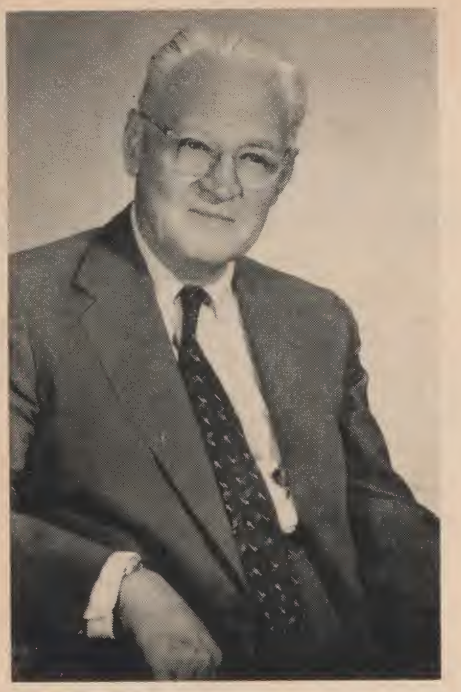
One might say that so little can be done that it is not worth it. This is not so. It simply means that we cannot hope to teach in the old way. More use must be made of instant and quickly prepared products, of demonstrations by the teacher, student and teacher planning, student projects and home assignments. Both students and parents will have to understand that every class period does not complete a lesson. Each class period will only be one part of a unit lesson. Thus, similar learning experiences with different applications may be incorporated into the school week.

It may also mean that occasionally, students might have to remain after school hours in order to complete more involved work in meal preparation, afternoon teas or fashion shows. However, one seldom objects to time spent in pleasant activities. It has been my experience, that almost all the students electing Home Economics have thoroughly enjoyed it.

Training for Life

The advantages of this system, especially the closer contact with the student, far outweigh any disadvantages. It is a challenge for both students and teachers. It involves considerable planning and organization, but once instituted, it is an excellent training for life, the main purpose of education.

In the words of Samuel Clemens, Mark Twain, "Training is everything. The peach was once a bitter almond, cauliflower is nothing but cabbage with a college education."



Dr. W. H. Brittain, former Dean and Vice-Principal, Macdonald College of McGill University.

Dr. W. H. Brittain speaks on . . .

SIR WILLIAM MACDONALD

On Sir William Macdonald

HE WAS A very, very modest person. He used to come to Macdonald frequently and looked things over. My father used to walk around the campus with him. He was interested in everything he saw. He always had a feeling of wonder — as one would expect in a much younger person. I remember one story about Sir William. Dr. Newman who later became Dominion Cerealist was then Secretary of the Canadian Seed Growers Association. Dr. Newman arrived here at the College one morning and Dr. Robertson, Vice-Principal at that time, asked Dr. Newman if he would like to meet someone at the train — he didn't say who he was meeting. So when the train stopped a short-bearded man stepped off and said he would rather walk to the College, so this small-bearded gentleman immediately seized Newman's suitcase and insisted on carrying it. When he got to the College, the gentleman went to his room and Dr. Newman then asked Dr. Robertson "who was the gentleman?" And Dr. Robertson replied, "That is Sir William Macdonald!"

On the Late Dr. E. A. Corbett

He was one of those rare souls that had a real genius for friendship. I don't suppose there was anyone in his field that knew as many people and had more friends than Dr. Corbett.

He was one of the best raconteurs and gatherers of folklore that you could find in Canada. He loved to tell stories and he was also very good at listening to them.

He was a pioneer in adult education and as a pioneer he was without the aids that educators have today. He had more use for a horse and buggy than a computer. He operated on personality and human contact and that was the secret of his success.

He was an excellent speaker and had the gift for an interesting form of writing. He was an excellent communicator.

We'll never see his like again.

On Macdonald College's Past

I've seen many changes here. At first, back in the 20's, everyone had to go through a diploma course first and then to proceed on to the degree. In those days, we took purely agricultural subjects — we had a course in all the multiplicity of jobs on a farm. For our final, we had 28 exams. Today they have five or six. Now, of course, the basic subjects are taught first. It is much better that way.

On Macdonald College's Future

Nobody knows the future — things are going so fast now that it is unsafe to predict. I think the strategic position of Macdonald College and the kind of staff that has been built up could make this place fundamental in the development of agriculture.

On Being a Dean

A dean doesn't have much time for doing things on his own — no research or teaching. The thing that gave me the greatest satisfaction was to do something for the young men passing through my hands. If they were in trouble of one kind or another, you could try to help them out. To see them go ahead and make a success gives me a good deal of satisfaction.

On Spare Time

I spend my spare time on problems associated with the Morgan Arboretum. I feel I have a limited amount of time ahead of me, so I feel it necessary to budget my time and to concentrate on certain things that interest me.

On Retirement

Well, the only way I could retire would be by chloroform or by being put in a strait jacket! I look with horror on retirement if it means not doing anything more.

Dawn on Daniel's Lake

by Dr. W. H. Brittain

The birch trees stand all ghost-like in the dawn,
Etched on the mantle of the misty morn;
High in each leafy tree, the unseen thrush
Fills all the trembling air with silver chimes.

The sun still hidden by the eastern hills,
Lights the horizon with a saffron glow;
Touches with gold the ripples on the shore,
And strikes to flame the limpid spheres of dew.

But now her beams seek out the further shore,
She lights the east with an intenser glow;
Trembles one breathless moment on the rim,
Then bursts in glory from behind the hill.

June 1949.

Feeding Value of Haylage

by Prof. Gene Donefer
Department Animal Science
and Nutrition

IN DISCUSSING the nutritive value of different forages it should be made clear that the most important feature that differentiates the various methods of forage preservation is the moisture content of the stored material. The most common method of preserving forage has traditionally been by drying, for when the moisture content of dried forage (hay) is decreased to at least 15% it can be stored without heating, molding, and subsequent loss of nutritive value. From a feeding standpoint the major criticism of hay is that the most nutritious portions of the plant (leaves, fine stems) are usually lost during the curing process.

In order to properly preserve silage its moisture content must be high enough (usually 70-80%) to favor the natural fermentation which produces the acids which essentially "pickle" the plant material. Silage, from a feeding standpoint, has the advantages of being a highly palatable feed, with more of the nutrients of the original plants preserved than in the case of hay. Some of the disadvantages of silage, namely its odor (particularly when prepared from grasses and legumes), and its bulk (approximately ¾ water), have favored the development of a newer form of forage preservation, *haylage*.

High Moisture Hay

Haylage, sometimes defined as low-moisture silage, might also be called high-moisture hay. The moisture content of haylage is generally in the 50-60% range, although it could vary in either direction. From a feeding standpoint we are interested in whether plant material preserved as haylage has any special nutritional advantages over the other common methods of preserving forage. Because haylage preparation has only achieved popularity in recent years we find that experimental information as to its nutritional value is still fairly limited. Our first feeding experiments at Macdonald College with haylage were conducted this past fall, taking advantage of the silo-full put up at the college farm.

While the haylage was being fed to the dairy herd, daily samples were taken for a period of three weeks and fed to sheep housed in special "digestion cages". Sheep are used at the College as ruminant "pilot animals" as they have similar nutritional requirements as cattle, but are much easier to handle for experimental purposes. Although the

Prof. Gene Donefer, Department Animal Science and Nutrition

final results of our experiments are awaiting completion of chemical analysis, we can say that the sheep found the material very palatable with large amounts consumed when offered to the animals free-choice.

Further Haylage Experiments

Several reports have recently appeared describing haylage experiments completed at different locations, and I would briefly summarize some of these results. At the University of Missouri a field of an alfalfa-bromegrass mixture was used to prepare both high moisture (75%) and low moisture (50%) silage. Chemical analysis of both materials indicated a greater loss of protein from the higher moisture silage (probably due to leaching) with the low-moisture silage (haylage) having an average protein content of 19% as compared to 15% for the conventional silage from the same field (protein analysis on Dry Matter basis). When the two forages were fed to dairy heifers, the workers at Missouri found dry matter intake to be 37% greater and weight gains 27% greater in favor of the haylage.

Another experiment of interest was conducted at the University of Maryland where hay, haylage, or silage, all prepared from alfalfa, were fed to different groups of wether lambs for a 42-day period. Dry matter intake in this experiment was highest for the hay and lowest for the silage, with the haylage results falling between the two others. The sheep were able to maintain their weight on a full feeding of the haylage, but not with the silage, losing an average of a tenth of a pound a day over the entire feeding period.

At the University of Illinois, haylage and hay were compared as part of the finishing rations for Hereford yearlings. The highest gains in this experiment (2.84 lb/day) were obtained with a daily ration of 7.5 lb haylage, 14.6 lb high-moisture corn, and 1.5 lb protein supplement per animal. When the haylage was replaced with an equivalent amount of hay, gains of another lot of steers were reduced to 2.66 lb/day.

In summary we can say that haylage properly prepared is a palatable and nutritious feedstuff which can play an important part in a cattle or sheep feeding program. Haylage might thus be considered as another "tool" available to the farmer in his development of a nutritionally sound feeding program.

INTERVIEW

During the past year, some valuable experience has been gained at Macdonald College in the handling and feeding of haylage. Here, Mr. Jim Houston, manager of the College Farm, comments on the use of haylage.

What are the advantages of haylage as far as you are concerned?

Mr. Houston: We have been trying to get away from silage odour. It has always been a big factor especially when you are milking a lot of cows. You either feed quite a few hours before milking, or else don't do any of your silage feeding until after milking to keep the odour down. Haylage did away with this odour. We did run into a few problems, of course. The major one was to get the moisture down low enough. In one case, we didn't get it down to 50%. One day it looked like rain and we went ahead. We only had the moisture content down to 65%, and it wasn't quite low enough, so we got too much moisture in the silo.

Do you like feeding haylage?

Mr. Houston: Very well. I can't tell you whether the cows milked any better or not because we are still feeding grain concentrates too. I believe if a farmer was just feeding haylage, he would see quite a difference.

Do you think farmers will adopt this new idea in forage preservation?

Mr. Houston: Well, I think the biggest trouble with haylage is that you have to leave it out in the field to cure for quite a long time, and if you left it another few hours, you could bale it and make hay out of it. I think this is going to be the hard part to sell farmers.

Because we have a tradition of making hay rather than silage?

Mr. Houston: Yes, that is right. Usually the old story has been making grass silage. If you can't make hay, you make silage, especially when the weather is against you.

I believe, too, that with haylage you would have less loss of leaves and damage to the grass than with hay.

Mr. Houston: This is quite true. There are a few other factors to take into consideration. You have to have the high silage boxes, a canvas or something on the top to keep the leaves from blowing out. Another

Chop short, one quarter inch or less, in order to make good haylage.

factor is you must have an air-tight silo, or else you will get a lot of spoilage especially along the doors. We have covered the silos here at the college with plastic, and then when you are finished you must put a plastic cap on it. We found there was a lot less waste this way.

How did the haylage come out of the silo ?

Mr. Houston : It was very easy to get out. I don't know what it would be like in freezing weather. It's much easier than silage because there is less moisture in it.

What do the workers in the barn think about it ?

Mr. Houston : They like it very much. There is less handling. You are only feeding 15 or 18 pounds a day compared with grass silage where you feed from 30 to 40 pounds per cow.

How does it fit into the cropping system here on the farm ?

Mr. Houston : We started cutting it on the June 2nd. It is a good thing in lots of ways. When you turn your cattle out in the spring, you usually have a lot more grass than you require. So at this stage of the game, you can afford to cut and put it in a silo. Then you have the second growth coming up, and you can turn your cattle back on this.

Did it require a lot more machinery ?

Mr. Houston : No more than when making grass silage or corn silage.

What did you feed along with the haylage ?

Mr. Houston : Well, we always have fed a grain concentrate. In the summer we usually feed about one pound of grain to six or seven pounds of milk depending on the amount of milk each animal is giving.

Do you feed any hay along with this haylage ?

Mr. Houston : No, we didn't feed any hay at all during the summer, but we fed them a little bit of hay starting in November. When you are feeding haylage, the cattle eat very little dried hay.

You are quite happy with haylage then ?

Mr. Houston : We are very happy with it. In fact, we are hoping to do better with it this year.

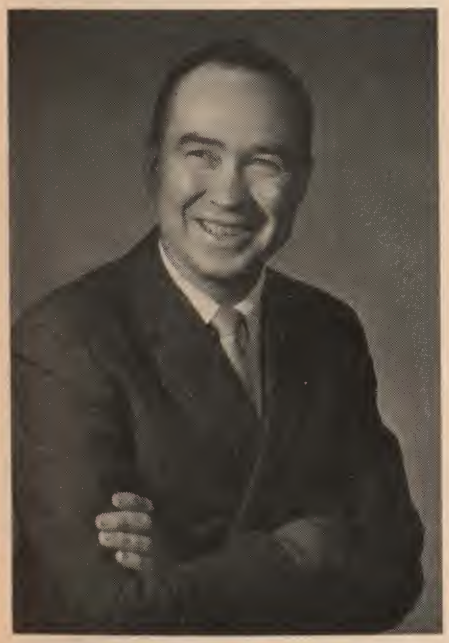
smell like the old grass silage. who around here has tried it ?

Well if you are making grass silage now the change to haylage will not be too great. You just have to stand around a little longer with one eye on the weather while the forage dries out. Where you used to chop right after cutting, you now have to wait for 3 to 5 hours. In other words haylage is about half way between the fresh cut plant in the field and hay ready to be baled.

When grass silage was made the high moisture in the leaves and stems helped to pack the chopped material. The main object was to keep air from getting at the freshly cut forage. It wasn't silage until a little later as the acids and bacteria started working on the green chop. But the high moisture led to some problems. One was leakage from the silo and the other the bad odour your wife and neighbours didn't like. Feed value also went out with the juice. This grass silage was made up of about ¾ water if you chopped it directly from the field. You might say too that the high water content would allow the silage to freeze more easily.

Were you one of those who tried wilted grass silage ? Most people liked it better than the direct cut. It certainly cut down on the leakage from the silo but really the odour was still there. Most people who put this kind of silage in their silo let the cut forage lie in the field for a couple of hours and the sun dried it down until it was about ⅔ water. The extra water was going to run

Haylage — From an Engineer's Point of View



by Prof. John Ogilvie, Dept. of Agricultural Engineering.

SO WHAT ? What's it to me ? Don't I need a fancy new silo and a new chopper and new wagons and new rules ? How can I afford to buy the equipment and all that stuff to get what, 25% to 35% more feed per acre ? Besides I haven't even seen the stuff. What does it look like, does it

out anyway and there was no use hauling it to the barn.

Like Moist Tobacco

It may have been that someone let the mown material get too dry or something like that but anyway the material going into the silo was only ½ water. It came out smelling something like moist tobacco and the cows loved it. There was no seepage and no bad odour. The name haylage was given to this silage which was half-way between the old grass silage and hay as far as moisture content was concerned.

A lot of research has been done by farmers themselves and other agricultural research people. Early recommendations were to use nothing but an airtight silo as a storage. This came from the fact that as the moisture content of the forage was only 50% of the total weight, air could move through

without trouble. The air fed the bacteria, which worked harder, more air and so on until — no silage. If the air could be kept away, the silage making process, which works without air, could do its job and have a good product. The airtight metal silos certainly did this but have a high first cost. Research has shown that by chopping short (machine set for ¼ inch cut) the air could be squeezed out from between the pieces of forage and produce good haylage, in standard concrete silos.

Some older silos, though, had cracks in many places which let air at the sides. This caused spoilage all around the edges and especially near the doors where large cracks were found. The top surface let air get at the silage and 2 feet of top spoilage was common. But this was changed as farmers fixed up the walls with good cement grout or the newer epoxy coatings and used plastic film to cover the door openings and seal over the top surface.

This year at Macdonald we had a chopper that could be set to cut ¼ lengths (even though some goes in crossways and it is cut much longer) and we made haylage. Jim Houston tells about it on another page. The cast-in-place silo we had was 10 or more years old but we sealed up the doors with fertilizer bags (the new plastic kind) and used a piece of plastic for the top cover. We added a little bit of wet forage for weight to hold the plastic down. A moisture meter was made out of regular tin cans, some washers and some ¼ inch rod.

The sample we had taken in the field was dried by holding it over the tractor exhaust for about 5 to 10 minutes until all the moisture was gone and the meter read the same for two or three readings in a row. The moisture content should be checked for each new field or at the start of the season and a good man can get the feel of the hay within a short time. Have you noticed that the first few bales into the barn when you start baling are often too wet for comfort. The meter just helps get your senses on the right track.

For the first year of haylage making at Macdonald we stayed close to the high end of the moisture content range. This was close to 60%. We weren't sure of the silo walls and had made no repairs to them. The haylage in the bottom of the silo was close to being wilted grass silage. Another year the moisture content of the bottom will be 40-50 per cent and the upper parts will be 50-60 per cent to get a better product. The wagons should be covered when you load haylage to keep leaves from blowing away. The sides should be extended too since you get more bulk in the same tonnage.

New Rules

So — no new chopper, just reset the old one. No new wagons, just raise the sides and cover the top. New rules, yes. Here they are:

1. Chop short — ¼ or less.
2. 45 to 55 per cent moisture content at chopping time.
3. Seal silo with inside wall coatings and plastic covers.
4. Fill silo fast. In one day if possible.
5. Distribute silage well and pack well against walls and around sealed doors.
6. Cover top with plastic film.
7. Remove at least three inches of haylage per day in warm weather

Haylage Helps You Handle Forage

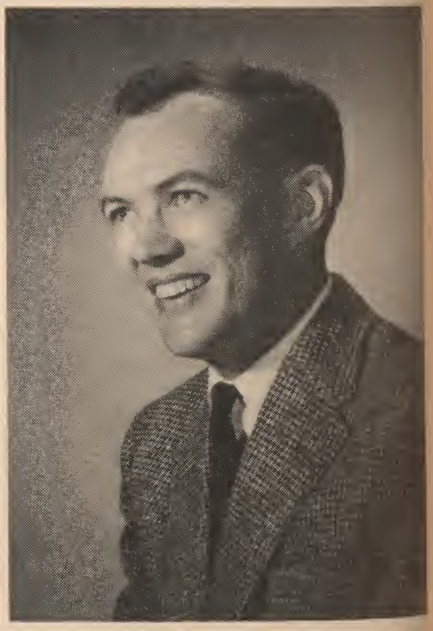
HAYLAGE is dry grass silage that smells good. Farmers need special equipment to make haylage, but once they have it, they can also make grass silage. There is no clear distinction between wet haylage and wilted grass silage. You call it haylage if it smells sweet, or silage if it smells sour.

You can make haylage out of anything that you can make into hay. You bring it in at about the moisture content of hay that is to be dried on a drying platform. So you can consider haylage as an alternative to barn-dried hay. In addition, you can make haylage out of forages which are hard to handle as hay. Ladino clover and other leafy legumes are hard to handle as hay because of leaf shattering. You can pick up and handle these crops as haylage and avoid some of these handling losses. Crops like reed canary grass are pretty stiff and coarse as hay, but they make nice fine chopped haylage. Short forages, like pasture clippings, are also readily handled as haylage.

Haylage doesn't beat the weather the way grass silage does. But the farmer who is prepared to make some grass silage as well as haylage can go a long way towards saving feed that would otherwise be lost or damaged by bad weather. The grass silage can be kept away from dairy cattle and used as feed for non-milking stock. If he starts to make haylage and gets caught without time to get it dry enough for haylage he can put it in as grass silage. An alternative would involve using artificial drying to reduce the moisture to a level suitable for storage as haylage. Although this is theoretically possible, I do not know of anyone who has done this yet. However, I suggest that the farmer who goes into haylage will be able to store his winter feed when the farmer who depends on hay alone has to let it rot in the field. The man in haylage can either make silage or he will be able to do the small amount of drying required when it is too wet to barn-dry hay. It should not be very difficult to develop driers that will reduce the moisture content from 75 per cent to 65 per cent or less for the farmer who wants to make haylage in wet weather.

Zero Grazing

The third important feature of haylage is that it makes "zero grazing" practical. The farmer equipped to make haylage is also equipped to handle his "pasture" through the same set-up he



by Prof. J. S. Bubar,
Department of Agronomy

uses for his haylage. A gas-tight automatic unloading silo can be used year-round to store pasture during the summer and winter feed during the winter. This is particularly useful for storing one or two weeks' feed through our warmer season and gets around the problem of having to cut fresh daily as is required with more conventional zero-grazing. This makes a haylage program a year-round operation.

Forage handling on a farm equipped for haylage may be quite different from a conventional hay, pasture and silage farm. It will probably pay to use zero-grazing and a feedlot rather than conventional pasture. You save on fencing costs, and you can get more feed per acre because you can give more favourable management to pasture plants. For instance, you can set the height of cutting at whatever height favours the forage plant. You avoid selection of certain plants and fouling of forage with manure droppings. Plants like alfalfa, which are damaged by tramping and grazing, can be protected with zero grazing. Alfalfa becomes an ideal pasture plant when zero grazing is practised. The use of a gas-tight self-unloading silo permits you to store enough pastures for several days or weeks. If it is too wet to make haylage out of pasture clippings, these can be fed fresh daily.

By mid-June, the farmer may fill up silos both with the pasture he needs through July and August as well as with winter feed. This is when we get a good portion of the season's total production from our hay and pasture crops. Then he can feed out good haylage during the part of the year when pasture growth slows down and escape the ravages of summer drought. It may be desirable to feed out haylage that tends to be a little on the moist side as zero graze pasture for July and August and to replace this with second growth forage that you might otherwise use for mid-summer grazing. This second growth is ready for cutting when the season is most favourable for making haylage.

Good haylage is dry enough so that freezing is not considered a serious problem during the wintertime. Reports from areas like Minnesota, where winters are as cold as ours, indicate that haylage systems work well at sub-zero temperatures.

Mixed Silage

In September, fall forages like corn are ready to harvest. The farmer is also likely to have a good crop of aftermath hay waiting to harvest. He can make a very good mixed silage by mixing chopped alfalfa or other grasses and legumes with corn silage. Mr. Philippe Granger at the Institut de technologie agricole at St. Hyacinthe has followed this practice for several years with considerable success. Wilted grass can be used to help counteract too high moisture in corn silage when this happens to be a problem. Farmers who have equipment for making haylage can also make this mixed silage.

The same forage handling equipment can be used for haylage, grass silage, corn silage and zero grazing. You can also use this equipment and a gas-tight silo to store ear corn or other grain too moist to store as dry grain. This grain may be mixed with haylage or grass silage, or it may be stored as moist grain.

The fact that haylage is good feed is discussed elsewhere in this issue of the Journal. I like the haylage idea because it is an efficient method of handling forage, because it makes it possible to use forages that are otherwise very hard to use, because it pits in so nicely with zero-grazing pastures and because it helps farmers overcome weather problems — both when it is too wet and when it is too dry. Haylage is a key to successful forage farming in Eastern Canada.

OBITUARY

Prof. A. R. Ness (left) as he receives recognition at the time of his retirement in 1956.

Professor Alexander R. Ness, who retired in 1956 as professor, Department of Animal Husbandry at Macdonald College, passed away in Montreal on February 8, 1965. He was 74 years of age.

Professor Ness was among the first graduates of Macdonald College. Following World War I, he returned to his Alma Mater as a member of the staff of the Department of Animal Husbandry.

His association with the college for nearly 40 years resulted in his being known by thousands of students and by many farmers and agricultural leaders across Canada.

He was a Commander de l'Ordre du Merite Agricole, awarded by the Province of Quebec.

Professor was an enthusiastic supporter of the Ayshire breed of cattle and was best known by his students as "perfectionist" when it came to judging livestock.

The sympathy of all who knew Prof. Ness is extended to his wife and family.

LETTERS TO THE EDITOR

Wanted, a Canadian pen pal

Dear Sir:

I do hope you don't mind me writing to you, but I felt I just had to. You see your magazine is the nearest I can get to Canada, a country in which I am very interested. The point is I would very much like to write to someone in Canada of about my age.

I'm sixteen and go to a public girls' school in London. I am very interested in natural history, geography and the countryside. I enjoy reading your magazine as I am interested in farming and although much of it is above my head I understand quite a bit of it.

I spend most of my school holidays on the Romney Marshes on the South Coast, pottering around with the sheep. Although I don't actually live in the country I would like to correspond with someone who does, and who shares some of my interests.

I have always loved Canada and from an early age it has fascinated me although I have never been there. My interest was stimulated further when I studied it along with the U.S.A.

I should be very glad if you could help me in this 'venture' of mine.

Yours sincerely,
Margaret Henderson,
4 Palliser Court,
Palliser Road,
London W. 14, England.

Anniversary Issue

Dear Sir:

I've just received the January 1965 edition of your Farm Journal. It is most impressive, and the type of publication one could expect from an Agricultural College.

It is just too bad that each Experimental Farm across the country wouldn't try to reach the people in this interesting and readable form.

I just wanted to write and compliment you on your efforts.

D. P. Wood,
Prima Fertilizers Limited,
Kensington, Prince Edward Island.

THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE
BY THE
QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

Compiled by T. Pickup of the Information and Research Service, Quebec Department of Agriculture and Colonization.

This month in the

FAMILY FARM

Section

PHOTOGRAPHS BY OMER BEAUDOIN

Miss Lorraine Watt with two friends, Roxy and Pearl, in 1959.

A THRIFTY GASPÉ FARMER

IN SPITE of a severe climate and remoteness from markets, Mr. Oliver Watt of Port-Daniel West, Bonaventure County, with the help of his family, earns a living entirely from his land. Besides working his own farm of 180 acres (90 of them under the plough), this hardy tiller of the soil also operates a neighbouring one belonging to a relative.

He has 70 acres of clay soil and 20 of organic land. The grains and hay follow a rotation of 5 years: 2 in grain, and 3 in sod including pasture.

Drainage is inadequate in the depressions which traverse the farm lengthwise. This condition is reflected in the yield of the crops. The grains grown are Rodney and Garry oats and Parkland barley.

All the animals obey their master's call, which has a special tone for each kind. The cattle are of Holstein and Guernsey stock and are headed by a Guernsey bull. There are fourteen cows milking with an average yield of 8,000 pounds of milk and an average fat test of 4.3%. There are 56 sheep, all cross-bred except for the Leicester ram. The rest of the livestock consists of 1 Belgian mare with a sturdy foal at foot, 1 pony, 6 young pigs, 400 Leghorn hens and cockerels, 10 bantams, and 7 pigeons.

The eggs are candled and graded on the farm and all the poultry products are bought by regular customers.

The quarters where the cows are kept are in some need of repairs but the barn itself and the smaller buildings are in a good state of maintenance. The family home, though unpretentious on the outside, has been extensively repaired and altered inside and now has most modern conveniences.

Mr. Watt is an elder of St. Mark's Church and president of the agricultural society. Mrs. Watt, who is very active in the Women's Institutes at the local and regional levels, is also correspondent of a local newspaper. She does the bookkeeping for the farm and is very proud of her ability to account for the receipts and expenditures of the undertaking as far back as 1941.

Vegetables thrive in the garden. Apple trees decorate and shade the lawn. Every department on the farm shows a slight profit — which explains why Mr. Watt is succeeding where so many others give up.

TEN QUEBEC NURSERIES TO BE IMPROVED

The Minister responsible for administration of the Agricultural Rehabilitation and Development Act in Quebec, Mr. Alcide Courcy, has signed an agreement with Ottawa concerning improvements to ten of the Province's nurseries at a cost of $183,630. The improvements are planned with a view to the production of young trees to be used for reforesting unproductive land in Témiscamingue and Abitibi, and also in the Lower St. Lawrence and Gaspé area which is a "pilot region" as regards planning under ARDA. The cost of the work will be shared equally between Ottawa and Quebec and will be carried out under the technical and administrative supervision of the Quebec Department of Lands and Forests.

In announcing the undertaking, Mr. Courcy points out that it is a different one from the agreement which he recently made public concerning the enlargement, at a cost of $99,500, of the nursery at St-Modeste (in the County of Rivière-du-Loup). Improvement of the ten nurseries is a specific project involving establishments at New Carlisle (Bonaventure), Notre-Dame-du-Nord (Témiscamingue), Trécesson (Abitibi East), Clermont (Abitibi West), Lavernière (Magdalen Islands), Macpès (Rimouski), Sayabec (Matapédia), St-Louis (Témiscouata), Mont-Joli (Matane), and also at St-Modeste which is to be improved as well as enlarged.

The improvements will consist of drainage, ploughing, harrowing, application of fertilizers, scarification, planting and transplanting of young trees. Work on them has already begun in the nurseries of Trécesson, St-Modeste, St-Louis, and New Carlisle and also, with special urgency, at New Carlisle, in order to help employees of the Robin Jones industry at Paspébiac which caught fire a few months ago.

It is estimated that the projects will provide over four months employment (approximately 100 working days) for about 75 men. Some $72,000 will be paid in wages. Costs of hiring machinery and buying materials and fertilizer are reckoned at $8,000. It is proposed to devote $103,000 to the purchase of seedlings for planting out in the nurseries.

The above-mentioned improvements to the ten nurseries will enable the Quebec Government to meet the many requests for young trees needed for the reforestation called for in the master plan for redevelopment of the Lower St-Lawrence and Gaspé area by the Eastern Quebec Planning Bureau. The demand for young trees for this region exceeds the present output of the government's existing 23 nurseries.

By aiding reforestation, this nursery improvement project will become an integral part of a programme to put marginal and sub-marginal farm lands in rural areas to more efficient and economically profitable use. The project thus furthers one of the aims of ARDA — alternative use of land of low productivity.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

WORLD SOIL MAPS

Two UN agencies are working on making soil maps of the countries of the world. The purpose of the study is to gain knowledge of the world's soils for use as a tool in the fight against hunger. So far, maps of western Europe and Africa have been published. In the works, are maps of North and South America and Asia.

Using a stainless steel gauge, Mme Gilles Allard of St-Alexis, Montcalm County, measures the amount of milk in the bulk-tank at a glance.

HOW TO USE BULK MILK TANKS

With the coming of the bulk storage tank, milk producers will have the advantage of being present at the measurement, sampling, and judging of the quality of the milk produced by their cows and will be able to satisfy themselves on the spot that these operations are properly carried out.

The three operations should be done by a qualified person, that is to say by the bearer of a milk tester's permit. This person may be the driver of the tank-truck or someone accompanying him: in either case he must show his tester's permit if requested to do so.

The following are some precautions which must be taken to ensure accurate measurement and testing and a clean bulk-tank.

a) the milk must be measured before being stirred, by means of a special graduated scale;

b) the stirrer must run long enough (for at least three minutes) to ensure perfect mixing of the milk with its fat and thus permit the taking of a truly representative sample;

c) while the stirrer is in motion, the truck-driver is to connect the bulk-tank with the pump.

The truck-driver is recommended to rinse the bulk-tank with cold water as soon as it has been emptied; but it should be remembered that rinsing in no way replaces washing and sterilization.

The truck-driver, tester, or dairy-farmer who tries to save time in carrying out these tasks runs the risk of distorting the weighings and results of the tests or of worsening the quality of the products delivered to the dairy plant or factory.

Quebec Department of Agriculture and Colonization,
January 11th, 1965.

REVIEW OF THE DAIRY INDUSTRY

CANADA'S DAIRY industry, a billion dollar a year enterprise in terms of product sales, appears headed for clear sailing after a spell in the doldrums which saw huge surpluses of butter pile up.

There is reason for the air of optimism which surrounds all segments of the industry: consumption and production levels are back in balance, the stocks of surplus butter and butter oil have been sold abroad, domestic consumption of butter is again on the upswing after hitting a low ebb in 1961, and there is a strong demand at home and abroad for most dairy products.

The dairy problem emerged in 1958, due in part to a sharp increase in the price of butter (to 64 from 58 cents a pound) and in part to concern at that time about the dietary use of butter and other animal fats.

The price increase had the effect of increasing milk and butter production and, in conjunction with the dietary concern, reducing consumption of butter. The result was an annual butter surplus. From a level of 19.4 pounds in 1957, per capita consumption skidded to 15.8 pounds in 1961.

Butter consumption

With the introduction of a subsidy of 12 cents a pound in 1962 which reduced consumer prices, there has been a dynamic change in the butter consumption trend.

From 1961's low of 290 million pounds, consumption has risen steadily and the estimated figure for 1964 is 364 million pounds. The 74 million pound increase is the equivalent of 1.7 billion pounds of milk, or more than the amount used annually for cheddar cheese.

Butter consumption and production is expected to be in close balance in 1964 for the second consecutive year.

Milk production by Canada's 2.9 million cows is expected to total 18.4 billion pounds for 1964, little changed from the previous two years. Although the average output per cow has risen to about 6,330 pounds in 1964 from 6,140 in 1961, the number of cows has dropped by nearly 100,000 from the 3 million on farms three years ago. The higher production rate is attributable to improved feeding practices and the use of better stock in herd improvement programs.

Any increases in milk production in the past three years have generally been absorbed by the fluid milk trade which has shown a fairly steady increase in direct proportion to the gain in population.

World demand and prices for skim milk powder have brought domestic prices from about seven cents to approximately 16 cents a pound in just three years. Production in 1964 is expected to climb to 200 million pounds, the second highest amount on record. Exports will be close to the 40 million pound mark.

Ice Cream market

The ice cream market also is showing substantial gains, with the rate of consumption outstripping the rate of increase in population. This year's production should be around 50 million gallons, five per cent more than last year.

Keen domestic and export markets for Canadian cheddar cheese should result in a 1964 production level of 142 million pounds as compared to 137 million last year. Domestic consumption, which has passed the 100 million pound level since 1962, this year is expected to reach a new high of 107 million pounds. In addition, consumption of other Canadian cheeses should reach 16 million pounds in 1964, more than double the amount eaten in the early 1950's.

Just as milk and other dairy products contribute to the nutrition and health of Canadians, a buoyant dairy industry is a major factor in the nation's economic health.

Sales of milk last year by Canada's 300,000 dairy farmers brought them a collective return of $509 million and kept some 33,000 employees in more than 1,700 processing plants busy turning out products with a retail sales value of over $1 billion.

Expenditures by the industry — by farmers and processors alike — help maintain a high degree of activity in other fields, thus helping employment across the nation.

Each year, for example, dairy farmers spend an average of $23.6 million for new cars, trucks and tractors and buy fuel, grease, electricity, chemicals, fertilizers, containers, new machinery and labor. The total annual bill to farmers and processors for all these averages more than $800 million.

Today, the Canadian dairy industry is facing a rapidly strengthening market at home and abroad as a result of buoyant economic conditions and increasing demand with no significant change in production. This brighter situation is bound to reflect throughout the whole economy of the nation.

Milk production by Canada's 2.9 million cows is expected to total 18.4 billion pounds for 1964, little changed from the previous two years.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

SPECIAL AID FOR THE PURCHASE OF DAIRY COWS IN NORTHWEST QUEBEC

Animal Productions Division

In order to help dairy farming and agriculture generally in Northwest Quebec, the Department of Agriculture and Colonization offers special assistance for the introduction of grade dairy cows of good quality into the Counties of Abitibi East, Abitibi West, Rouyn-Noranda, and Témiscamingue.

Form of Assistance

1. Payment of the balance of the cost of the cow(s) on receipt of the beneficiary's contribution of $100 per head;
2. Payment of the cost of transporting the cows to a central point in the beneficiaries' parish;
3. Selection and purchase of young grade cows of the best possible quality by livestock specialists of the Department.

Regulations

4. This assistance is intended for farmers and settlers owning a dairy herd who wish to increase their milk production sufficiently to make it an economically sound, full-time enterprise;
5. Only farms already carrying at least 5 cows and having enough potentially arable land (in the County Agronome's opinion) to allow the herd to be enlarged fairly quickly to at least 25 head of cows are eligible;
6. Under the terms of this policy, the beneficiary must acquire *at least two cows* per year, the maximum being *20 cows in three years*;
7. Persons already owning 20 cows or more (after culling) are not eligible for this assistance;
8. If the Department is unable to supply the cows requested by an applicant, its liability shall be limited to returning his contribution;
9. The beneficiary must undertake to:
   a) keep the cows he acquires under this policy for at least three years or repay their purchase price less his contribution;
   b) breed his cows to a registered bull;
   c) follow in all particulars the directions of the responsible agronomes as regards the management, breeding, and feeding of his herd.

This policy replaces the former one (I.A.B.-2-5) and will remain in force until further notice.

Ernest Mercier,
The Deputy Minister of Agriculture and Colonization.

I.A.B. 2-5-N-O
QUEBEC, July 27th, 1964.

Agricultural Aims for Quebec

Targets for agricultural production proposed by the Agricultural Products Marketing Committee in its interim report

THE COMMITTEE for studying the marketing of Quebec's farm products was given the task of discovering how to match the Province's agricultural production with consumption. In an interim report the Committee has proposed a number of objectives for immediate or fairly rapid realization. These would have the effect of increasing Quebec's agricultural production by 30% within five years and by 50% (250,000,000 in value) within ten years and, at the same time, of raising the farmer's net income. Specific agricultural targets mentioned in this report are summarized below.

A. ANIMAL PRODUCTIONS

a) **Swine**
   i) increase production of hogs by 75,000 a year within the next five years (for a total value of $15,000,000) in the following areas — Lower St. Lawrence, South of Quebec, Hull, Abitibi-Temiskaming, and Lake St. John;
   ii) increase the production of weanling pigs by 150,000 head a year in the counties of Bagot, Arthabaska, Joliette, Shefford, Nicolet, and Yamaska (total value $1,500,000).

b) **Eggs and poultry**
   over the next eight years, gradually develop 2,200 laying flocks (2,570,000 birds) and 200 flocks for producing pullets in agricultural regions 1, 2, 5, 6, and 7* (total value $15,000,000).

c) **Veal**
   i) encourage milk feeding of calves to the age of 6 to 8 weeks thereby using 140,000,000 pounds of milk and raising the farmer's income by $7,000,000 within four years;
   ii) promote fattening of suitable calves on grass up to 1,000 to 1,200 pounds.

d) **Beef cattle**
   develop the raising of beef cattle particularly in Abitibi, Lower St. Lawrence, the Eastern Townships, and Gatineau at a rate to be determined by the results of trials.

e) **Sheep**
   double production, i.e. increase by 100,000 head within 5 years, in flocks of up to 100 ewes, at first localizing sheep rearing in the Lower St. Lawrence, Abitibi, and Bonaventure and later including other suitable parts of the Province.

f) **Dairy cattle**
   develop centres for the rearing of healthy, high-yielding dairy cattle, in order to provide producers of whole milk with animals such as they are now spending several million dollars a year on outside the Province.

B. DAIRY PRODUCTION

a) strive to increase the output and efficiency of profitable herds, aiming for an average annual yield of 8,000 pounds of milk per cow;
b) consolidate dairy farms capable of becoming profitable;
c) gradually guide farms with very small herds (fewer than 7 cows), which produce milk for manufacturing and cannot be made profitable, into other kinds of production, e.g. pigs, poultry, sheep, beef;
d) keep fluid-milk production level with consumption;
e) try to reduce butter production;
f) increase production, consumption and export of Cheddar and other cheeses, e.g. Richelieu and Gruyère;
g) increase ice-cream production and consumption;

* *Note: the Agricultural Regions of Quebec are as follows: — I. South Shore of the St. Lawrence (including the Gaspé and Lower St. Lawrence); II. the Saguenay; III. Quebec; IV. St. Maurice; V. the Eastern Townships; VI. Western Quebec; VII. Montreal.*

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

h) take energic steps to improve the quality of milk and dairy products as recommended by the committee which was set up for that purpose.

C. HORTICULTURAL PRODUTION

Increase annual production of the following crops :

a) **Asparagus**
to a value of $500,000 within 10 years, mainly in the districts of St-Amable and Ste-Brabe;

b) **Onions**
approximately the same as for carrots;

c) **Carrots**
by half a million bushels (value $800,000) within 5 years on 800 acres south of Montreal, especially on muck soil;

d) **Canning crops**
to keep pace with demand;

e) **Potatoes**
by between 1 and 1½ million bushels (value $2,000,000) within 5 years in agricultural regions 1, 3, 5, and 6;

f) **Apples**
increase controlled atmosphere storage capacity to 300,000 bushels within 3 years, thereby increasing the value of the crop by $1,000,000; renovate orchards systematically; increase production of natural and concentrated juice and other by-products by setting up suitable factories;

g) **Strawberries**
increase production by $1,200,000 worth within 3 years in the present strawberry growing areas and in the Lower St. Lawrence region;

h) **Honey**
increase production at the rate of 10% per year;

i) **Blueberries**
restore production and sales to the 1950-1959 level within 3 years, chiefly in the Lake St. John, Abitibi, and North Shore areas.

j) **Turnips**
i) with the help of ARDA, develop production of table turnips in l'Islet County in order to supply the Quebec and New England markets;
ii) organize a station for grading turnips and preparing them for market.

If these aims are achieved, the annual value of horticultural productions will be increased by seven or eight million dollars within five years.

D. INDUSTRIAL AND SPECIAL CROPS

During the next few years gradually increase production of industrial and special crops to reach the following targets :

a) **Cigarette tobacco**
organize an annual production of six million pounds (value $3,000,000) on 5,500 acres within 5 years, with 125 new growers, in the Joliette and Trois-Rivières districts.

b) **Sugar beets**
i) ensure St-Hilaire refinery of an adequate supply of beets;
ii) consider a project to build a second refinery in the Province of Quebec as soon as possible, at the most advantageous location in the St. Lawrence lowlands.

c) **Linseed flax**
increase the area devoted to linseed flax to 50,000 acres (value of crop about $2,250,000) within 5 years, on a permanent basis according to a plan prepared in collaboration with the industry with a view to helping less favoured regions.

d) **Soya beans**
if preliminary trials prove successful, increase production to 60,000 acres within four years (enough to justify the capital expenditure required for processing this crop in a factory which is already in existence) and subsequently to at least 25,000 acres.

e) **Rape**
carry out trials in different regions of Quebec and, if these are successful, develop this crop along lines similar to those outlined above for linseed flax.

f) **Grain corn**
Increase the area devoted to the growing of corn for grain to 25,000 acres (annual production of 1,500,000 bushels worth $1,800,000) within 5 years in south western Quebec, and subsequently more rapidly.

g) **Dried alfalfa**
Develop an annual production of 3,000 tons (worth $180,000) on 1,000 acres within three years in the vicinity of existing factories.

It goes without saying that the above aims cannot be attained without co-operation of the farmers for whose benefit the planning is intended.

(From an article by René Monette in "Agriculture", Montreal, Vol. XXI, No. 3)

A WESTERN CANADIAN SETTLES IN QUEBEC

Mr. Westburn Hamilton of Clarendon, Pontiac County, who came to Quebec from Saskatchewan in 1945, bringing with him a liking for ten-gallon hats and Hereford cattle, operates a fairly hilly farm with a total area of 300 acres, of which 169 are under the plough and 131 are wooded or rough, uncultivated land. There are about 64 acres of clay soil and 105 acres of sandy land. A very deep ravine cuts across one part of the farm.

As regards the fertilization of the soil, the programme consists mainly of manuring, supplemented with a ton of commercial fertilizer and 1 tons of lime.

The crops look well in spite of prolonged drought. The system of cropping calls for a four-year rotation: one year of grain, two of hay, and one in pasture.

The cattle consist of two Hereford bulls and 26 Hereford cows, 15 grade Holstein cows, and 61 head of young stock intended either for rearing or slaughter.

Mr. Hamilton buys about 15 heifers as replacements every year. He is definitely going in for raising beef cattle. He has some fine-looking cattle, especially among the Herefords.

Mr. Hamilton owns a considerable range of agricultural implements which he keeps in perfect working order and is thus able to carry out his various farming operations efficiently. A quite well-equipped workshop with a forge enables him to carry out running repairs.

The farm buildings are well suited to the need of the enterprise. A schoolhouse built in 1929 has been bought and converted into a machinery shed. One of the rooms has been turned into a repair shop, and a stove has been installed in it so that it is possible to work there in comfort even on the coldest days in winter. For the cattle there are open shelters in addition to the barn.

The home garden shows plenty of variety and contains an abundance of vegetables.

The house, built in 1918, is in good condition and provided with modern equipment. Mrs. Hamilton, who is the mother of a son and daughter, is an expert housekeeper.

Active and devoted, Mr. Hamilton is a member of several agricultural and social organizations. He keeps his books up to date.

(From "Le Mérite Agricole 1963")

HON. PAUL MARTIN ADDRESS

The Honourable Paul Martin, Canada's Minister of External Affairs, addressed the students and staff of Macdonald College at the Annual War Memorial Assembly in early February.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

The Better Impulse

NEWS AND VIEWS OF THE WOMEN'S INSTITUTES OF QUEBEC

Mr. Jack Watts, Chairman of Murdochville School Board looks on while Mrs. Donald Davis, President of Murdochville WI presents a cheque of $75.00 to Alex Bordine for highest marks in Grade X.

CHRISTMAS STOCKINGS

Mrs. J. Lewis sends us the following notes sent to the Toronto headquarters from the countries receiving the Christmas Stockings:

ROME, Italy ... Many thanks for Christmas Stockings. They are always a great joy for so many children and for us to distribute.

ORTONA, Italy ... Thank you very much for your thoughtfulness which made it possible for us to send Christmas Stockings to the various villages.

KOREA ... Thank you so much. The Stockings are always received gleefully and gratefully by the children.

VIET NAM ... I present to you all my thanks for your kindness and generosity. The Stockings mean such a lot to the children here ...

ALGERIA ... Tek Sacha ... Thank you for giving us so much happiness.

Mrs. Lewis adds: "We had a very successful year with Christmas Stockings — 1,241 were collected, 844 of which came from the QWI. Isn't that terrific! Really it is a wonderful effort. They are getting better all the time — in fact Toronto congratulated us, saying 'this year was far superior to any in the past.' That is a nice pat on the shoulders of the QWI. We received 12 lovely stockings without identification on them — sorry they couldn't be acknowledged."

She also mentioned that a nice carton came C.O.D. which they paid, but they have no fund to pay shipping charges, so please, members, don't send the stockings collect.

CIVIL DEFENCE AND DISASTER PLANNING

by Mrs. Audrey Jacques,
Convenor, Welfare & Health, Q.W.I.

CIVIL DEFENCE has been described as self-preparation for self-preservation. But it is more than that. It is community preparation for community preservation and national preparation for the preservation of democracy.

When you are prepared to act immediately and effectively on behalf of yourself and others in time of disaster, you are practising Civil Defence.

We try to prevent disasters but we are not always successful. Man cannot prevent all careless acts. He cannot control the elements, nor can he subdue the advances of this scientific age. It is inevitable that disasters will occur, but it is possible, through Civil Defence planning, to cope with them.

Mass Disaster

A disaster is something that happens unexpectedly. It may involve one person or it may involve several hundreds. When a large number of people are affected, the situation is usually termed a mass disaster.

The first thing which must be done in any disaster is to restore order out of confusion. In a mass disaster the immediate concern is to save the greatest number of lives and to restore health to as many of the ill or injured as is possible. The most pressing need will be for medical care, food, shelter, and protection from additional hazards for the survivors. During a large scale disaster, these essentials would be provided under the most difficult conditions. Consider any personal disaster and multiply one's reactions, needs and fears, so that the confusion and problems in a mass disaster can be better understood. Unless the individual realizes the enormity of the problem, he will not realize the importance of Civil Defence pre-planning and preparedness.

Personal experience has revealed the different ways in which people react to sudden shock of bad news. Some give way to violent grief, some appear numbed and inacapable of action, others remain cool and collected and are able to carry on with necessary tasks.

It would be the same in a sudden catastrophe but with increased disruption of normal facilities, strain on supplies and personnel, a variety of casualties with varied degrees of injury, danger of increased infection and epidemics.

In the case of an enemy attack on this country one glaring fact is apparent. Modern atomic weapons are the most powerful agent for destruction that have ever been devised.

When an atomic weapon is exploded, four things occur. In addition to the extensive blast damage there is the heat flash which can cause serious burns to exposed parts of the body, the release of highly penetrating "gamma rays" which cause radiation sickness and the danger of contamination by widespread radioactive dust and fallout.

Plans for Survival

Governments at all levels are planning for the survival of our nation in the event of a nuclear war. But the survival of individuals will depend upon the preparation that each community and each person makes.

Every day each Canadian family takes simple steps to ensure its continued peace-time survival. The purchase of food, medicines, clothing and insurance is a clear example of the acceptance of such responsibility. How much more is needed to provide your family with the best chance of survival in a nuclear attack? Family survival planning is vital to survival and a program for the protection of the family should be as follows:

1. Know the effects of nuclear explosion.
2. Know the facts about radioactive

(continued on page 23)

THE MONTH WITH THE W.I.

ABITIBI EAST: MALARTIC donated many articles to burned-out family. MATAGAMI held card party.

ARGENTEUIL: BROWNSBURG catered a hot turkey supper to Argenteuil Teachers' Association. JERUSALEM-BETHANY: Mrs. David John Rodgers was recipient of Life Membership, given by her branch; donated to Lachute High School. LAKEFIELD donated to the same school, as did PIONEER, and UPPER LACHUTE EAST END. Upper Lachute entertained LACHUTE branch.

BONAVENTURE: BLACK CAPE heard Mr. Baron, head of Safety Department for this area, speak on Safety in the Home and on the Highways; outline of education was read; suggestions made for school signs; birthday parcels sent to the branch's foster child. GRAND CASCAPEDIA welcomed a new member; held farewell party for one of their members; floral wreath given in tribute to deceased life member of the branch. PORT DANIEL: Guest speaker, Miss Johnson, teacher of the Auxiliary Class at Shigiwake-Port Daniel School, gave an informative talk on her work with retardation.

CHATEAUGUAY - HUNTINGDON: AUBREY-RIVERFIELD heard Mrs. Wm. Hudson's interesting talk on different kinds of therapy with accompanying slides illustrating work done in hospitals and various centres. DEWITTVILLE discussed Regional School and sent their considered opinion to local school board; held cake-decorating demonstration; heard talk on the work done for children in other lands by UNICEF. FRANKLIN CENTRE had a demonstration of afghan making. HEMINGFORD saw movie of Women's Institutes in England and Wales; answered roll call with something read about another WI Branch. HUNTINGDON answered roll call with name of a country and the colour of its flag; heard articles on the Spraying of Barberries, CAC testing on Butter and Margerine, Tensions, and Institute skills in the North; gave two scholarship loans of $100 each to two students attending college. ORMSTOWN heard summary of meeting held to receive suggestions and help in planning Expo '67; used postage stamps and Christmas cards collected.

COMPTON: BROOKBURY held New Year's Dance. CANTERBURY held discussion on Regional Schools; remembered an older member with a gift. COOKSHIRE heard talks on Operation 55 and on CAC; held true and false contest. EAST ANGUS paid for hot cocoa for the school; held paper drive. EAST CLIFTON: member gave demonstration on proper table setting; held several contests; donated to Lady Aberdeen Scholarship.

GATINEAU: AYLMER EAST: Mr. M. S. Reford, commissioner for Aylmer School Board, spoke on the new system of schools in Western Quebec; question period and discussion followed. EARDLEY purchased necessities for local family who lost everything in recent fire. RUPERT: Mrs. Gibson gave paper on Citizenship; held spelling quiz; Mrs. Barnes gave paper on Retarded Children. WAKEFIELD: Mrs. K. Main, expert in rug-hooking, traced the history of this art in Canada, and showed some beautiful samples; Mrs. Main has donated articles of her handicraft to raise funds for Gatineau Memorial Hospital. WRIGHT: Dr. Therese Gauthier LeBlanc of Maniwaki, spoke on Health, with the main topic Cancer, its many different forms, and the importance of early diagnosis; she also spoke on heart attacks and their treatment; question period and discussion followed; cottons for cancer donated.

MEGANTIC: KINNEAR'S MILLS gave farewell gift to member who moved away; discussed possible courses. INVERNESS discussed ways of raising talent money; 2 quilts and money donated to Old Age Home; Roll Call — how to keep young.

MISSISQUOI: COWANSVILLE answered roll call by telling of methods of feeding and attracting birds; article on Hepatitis read; interesting discussion held on what women can do in local welfare; gift received from Link in England; also letter from former branch president now residing in North Carolina. DUNHAM named their favourite newscasters; held quiz on provinces and their industries. FORDYCE: Mrs. W. Westover, Provincial Convener of Citizenship gave an interesting talk on ACWW; held contest on songs. STANBRIDGE demonstrated posters advertising the WI; contest on "It Pays to Advertise"; parcels sent to Unitarian Relief.

PONTIAC: BEECH GROVE heard talk on Cystic Fibrosis; gave honour pins to 2 schools for proficiency in Mathematics, English and French; took a trip to CJOH Television station. CLARENDON held two contests. QUYON donated to Ade Memorial Hospital. WYMAN-ELMSIDE made bibs for Ade Memorial Hospital; sent History of QWI to some older members.

RICHMOND: CLEVELAND held contest on Ailments of the Body. DENISON MILLS distributed yarn to members to make articles for Christmas Stockings. GORE: suggestions on how to make a house a home; contest on making an apple pie; reading on "How to Cook a Husband"; flannelette purchased to make diapers for Cecil Butler Home; MELBOURNE RIDGE held contest on home-made bread and rolls; reading on the Voice of the Farmer and article on Christmas Stockings sent from Canada to Greece. RICHMOND HILL held social evening; held sale of pot holders. RICHMOND YOUNG WOMEN held discussion on prejudice and discrimination; contest on peeling potato blindfolded; donated to hot lunches at school; donated to Cecil Butler Home. SPOONER POND had demonstration of Ceramics, given by Mrs. Parkes; housecleaning hints; amusing article on Ready-Made Clothing. Problems such as back zippers that stick, too narrow seam allowances.

SHEFFORD: GRANBY HILL held discussion on use of additives in food and their effect on health; contest — to write up members for award of woman of the year. GRANBY WEST visited a local plant, the Harold Williams factory. WATERLOO WARDEN held Tupperware party.

SHERBROOKE: ASCOT: Mrs. Wells Coates was guest speaker, telling of her week at the Royal Winter Fair and 4-H National Conference. BELVEDERE bought Coupon #367. BROMPTON ROAD served turkey banquet to Milk Producers' Association; worked at Cancer dressing station. LENNOXVILLE held cookie contest.

STANSTEAD: TOMIFOBIA heard talk by education convener, Mrs. R. Kemp

new and appetizing recipes distributed; donated to Dixville Home; welcomed a new member.

VAUDREUIL: HARWOOD enjoyed a social evening, having as their guests the STE. ANNE'S WI; games, contests and singsong were part of the program.

THE LADY ABERDEEN SCHOLARSHIP FUND

1. Q. Why should ACWW give scholarships?

A. To meet the crying need amongst mature country women and home makers for opportunities for training and for wider international experience, especially urgent in the developing countries.

2. Q. How will the scholarships be financed?

A. By voluntary contributions from member societies, donations etc. Up to the first $2,800 will be spent in getting the first scholars into the field as soon as practicable but the long term is to build up a capital fund. Thereafter the interest on this capital fund will be used to provide at least one major scholarship in each triennial period.

3. Q. For what type of training will the first scholarships be given?

A. A scholarship for a year's training in practical nutrition will be awarded as our contribution to the Freedom from Hunger Campaign.

A shorter term scholarship for either three or six months training in adult education, home and country crafts and family welfare and study of work done by one or more sister Societies within ACWW. This will be awarded as a cooperative effort, the Lady Aberdeen Scholarship Fund covering travel costs and out-of-pocket expenses, a member Society providing tuition and hospitality.

4. Q. Are other types of scholarship envisaged?

A. Yes, for example

- to provide an experienced leader for a stated period to give short courses of training to local leaders in a country which has asked for this help;
- to assist financially local leaders from villages to attend short courses at a training centre in their own country, or elsewhere, not only in nutrition but in the whole range of community welfare;
- to finance visits by voluntary leaders to other countries to study rural community development and the part played in such development by voluntary organizations;
- to finance visits between farm women and homemakers of different countries in ACWW.

5. Q. Who may apply for the scholarships?

A. Women in countries where there are ACWW Societies and who have a thorough knowledge of work with homemakers and/or community development at the local level. Applicants must be sponsored by an ACWW member society.

6. Q. Where will the scholars study?

A. In countries where appropriate training is available and where there is an ACWW society to assist them. Travel costs will also be borne in mind.

7. Q. Why is it called the Lady Aberdeen Scholarship?

A. Because Lady Aberdeen was one of the first founders of ACWW and all her life had worked for the interests of rural women.

by Norma E. Holmes

Dear Min:

The smell of sap in the air. Even though I'm not overly fond of sugar and syrup, I love the smell of it boiling. I suppose it's partly because it is one of the signs of spring. My grandmother used to park the baby on a cot in the sugar camp and look after the boiling. I expect we just don't have what it takes any more. I wouldn't even want to carry Buddy up there.

We have a bride on the next farm from 'way out West'. The other day the chimney started burning out and she couldn't remember whether it was sugar or salt she should put in the stove, so she ran all the way through the deep snow to the woods where the men were and all they said was, "Good. Now we, won't have to clean it." She has a quick temper and it quickened right away. Of course, later they told her with so much snow on the roof, there wasn't really much danger.

Ted and I thought we were doing a noble deed once — going to be heroes of the hour. We weren't very old and we were driving along a back road and saw a chimney burning out. We dashed up to the door and rapped. Finally a woman appeared. "Your chimney is burning out," we gasped. She just stood there. Then she said. "Oh." She looked as though she hoped the whole house burned down. Quite deflated, we drove away.

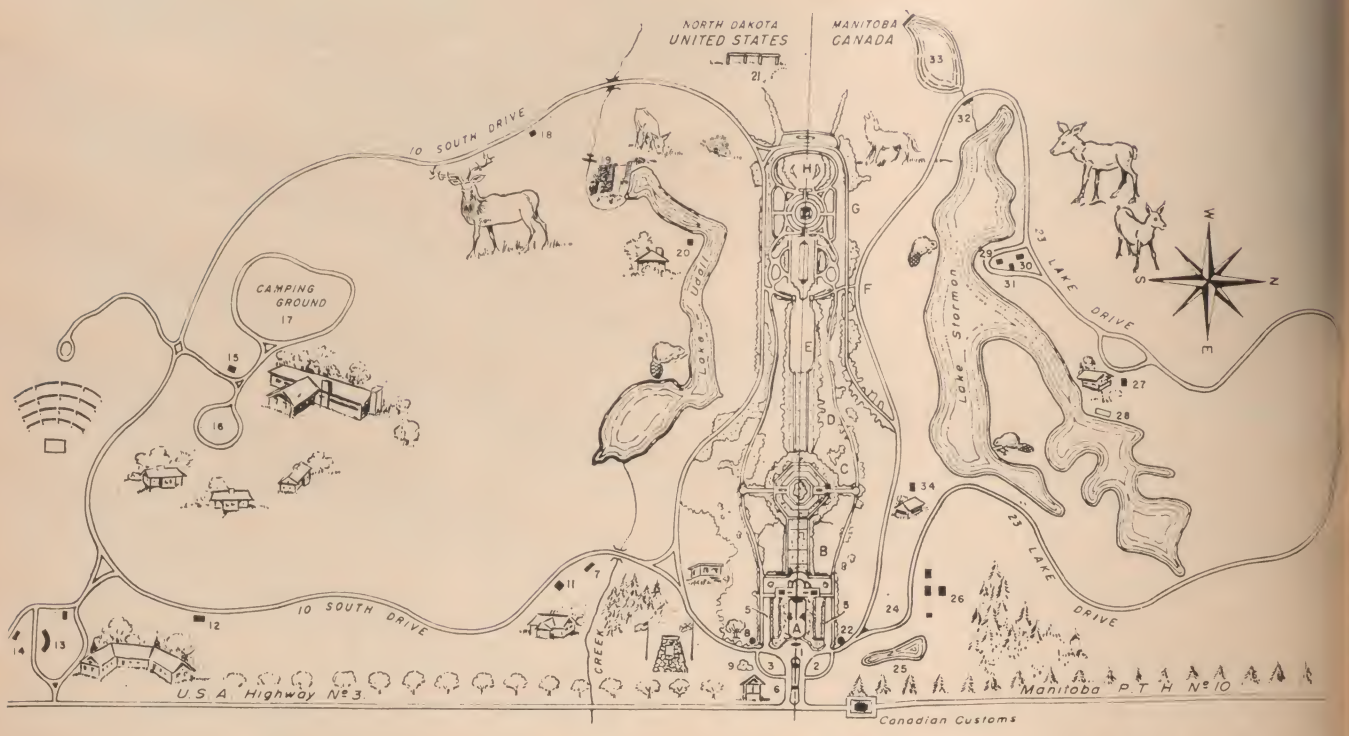
Another sign of spring. Windows. Double windows. I wish I had a window washer. I remember when I was working in Ottawa (B.M. before marriage), there were the upper window washers and the lower window washers. One day the lower window washers would come and, sitting comfortably on the sills, wash the lower halves. Then a few days later the upper window washers would arrive and, hanging by their eyebrows, to the accompaniment of gasps from all the girls, would wash the upper halves. I never did understand why there were two types, but I suppose it is logical. It isn't every window washer (including me) who would be a natural-born eyebrow hanger.

We hoped Wendy had passed the "Why?" stage, but after a few months rest, she has discovered there are a lot more things she needs the answers for. She has other signs of becoming a politician. Visiting her grandmother in the village, and sniffing the air, she said, "Grandma Lowman, you're the *best* cook. You do make the best tasting things . . . Can I stay for supper?"

Dad is still in good form. The other day an old crony called and they were discussing ages and Dad was surprised to learn that he was the older. "Sure," Ed told him, "I'm only a young fellow." Said Dad, the old horseman, "Let me see your teeth."

Eloise

The International Peace Garden



Numbers 29, 30 and 31 at the upper righthand section of the Peace Garden are maintained by the Women's Institutes. #29 — Kitchen — Manitoba's WI's. #30 — Kitchen — Federated Women's Institutes of Canada. #31 — Cookhouse — Two stoves.

Members probably noticed in the QWI annual financial report the item Peace Garden, for which the members are assessed 1¢ each annually. Many, especially new members, are not quite sure just what this Peace Garden is and why we support it.

The idea for the Peace Garden — which is the world's only garden dedicated to Peace — is on the border between North Dakota, U.S.A. and Manitoba, Can. in the Turtle Mountains. The Garden consists of 888 acres donated by the State of North Dakota and 1,451 acres donated by the Province of Manitoba.

The idea of the Garden was conceived by the late Henry J. Moore of Islington, Ont. in 1928. Mr. Moore was a graduate of the famous school of Horticulture at Kew Gardens in England and taught at Cornell University and the O.A.C., Guelph, Ont. He suggested the idea to a convention of the National Association of Gardeners of America and the idea was adopted by this organization. A committee was formed to choose a site and the present one was selected, because of its natural beauty, but also as it is midway between the Atlantic and the Pacific and is near the geographical centre of North America.

The dedication ceremony took place on July 14, 1932 and was witnessed by 50,000 people. A cairn of native stone on the international border near the gates bears the inscription

To God in His glory
we two nations dedicate this garden
and pledge ourselves that as long
as men whall live, we will not take
up arms against one another

The Garden is beautifully landscaped with lakes, terraces, sunken gardens and flowers. The tourist guide lists 34 points of interest. Among these, to quote the pamphlet are #29, 30, 31 "Kitchens and picnic area. This group is sponsored and maintained by the Manitoba Women's Institutes and the Federated Women's Institutes of Canada."

The FWIC was the first organization to buy a plot after the garden was opened in 1932, although many organizations have followed their example. The plots belonging to the FWIC and the Homemakers of North Dakota, being on the formal area, are landscaped to match and are called the 'show windows' of the Garden. Mr Moore, a personal friend of Mrs. Walker, a former FWIC president, picked the plot himself, after Mrs. Walker had brought the matter before the FWIC and they had asked to be included as sponsors. The plot is 190′ x 90′ and includes a picnic nook, which was dedicated to the memory of Mrs. Alfred Watt in 1955. A lot of work has been done on the plot since. There are two nooks, a kitchen or cookhouse, and benches from the provinces, each bearing the provincial coat-of-arms.

A summer school of Fine Arts is now held annually in the Garden. There are also cabins and a dormitory for overnight guests. The Peace Garden attracts thousands of visitors every year from all over the world.

COLLEGE PAGE

LYMAN ENTOMOLOGICAL MUSEUM SEMI-CENTENNIAL

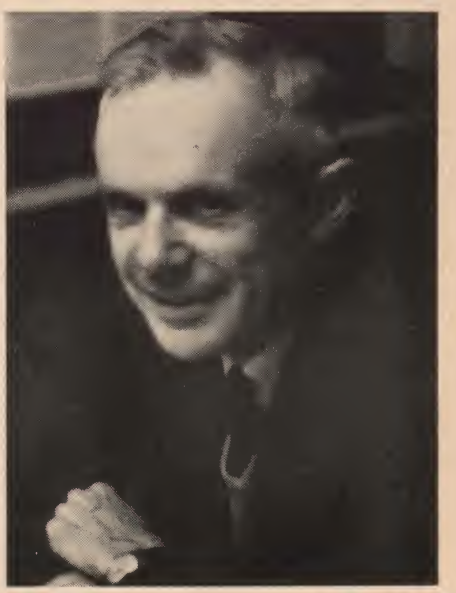
The Lyman Entomological Museum passed the half-century mark on December 22, 1964. Fifty years earlier the Lyman Bequest Committee was formed, under the terms of the will of the late Henry H. Lyman, to administer the funds bequeathed by Mr. Lyman to McGill University and to care for his collection of insects. Mr. Lyman, a successful Montreal businessman, was also an amateur entomologist with a world-wide reputation for his work on butterflies and moths.

The original committee was composed of Dr. C. Gordon Hewitt, Dominion Entomologist; Professor A. Willey, Department of Zoology, McGill University; Mr. A. F. Winn, President, and Mr. George A. Moore, Secretary, Montreal Branch, Entomological Society of Ontario. Professor Willey was named Chairman and Mr. Moore was named Secretary of the Committee.

On the 50th anniversary, a buffet dinner was held at the home of Dr. and Mrs. V. R. Vickery. Dr. Vickery is the present curator of the Museum and secretary of the Bequest Committee. Most of the people now associated with the Museum were present, although Mr. George A. Moore, the original secretary and still a member of the Bequest Committee, now 86 years of age, was not able to attend due to ill health. Dr. H. Rocke Robertson, Principal and Vice-Chancellor, McGill University, *ex officio* member of the committee, and Mrs. Robertson were unable to attend due to a previous committment. All other members of the committee were present: Dr. and Mrs.

Prof. D. K. Kevan, Chairman, Department of Entomology chats with Dr. E. G. Munroe, Head, Taxonomy Section, Entomology Research Institute, Canada Dept. of Agriculture, Ottawa. Both are members of the Lyman Bequest Committee.

Mr. A. C. Sheppard, Laval des Rapides, P.Q., joined the festivities as a member of the Lyman Bequest Committee.



D. K. McE. Kevan and Dr. and Mrs. F. O. Morrison, Macdonald College; Dr. and Mrs. G. P. Holland and Dr. E. G. Munroe, Entomological Research Institute, Ottawa; Dr. and Mrs. John Stanley, McGill University; and Mr. and Mrs. A. C. Sheppard, Montreal Branch, Entomological Society of Quebec. Dr. H. G. Dion, Vice-Principal, and Mrs. Dion, represented Macdonald College, and Miss Alice E. Johannsen, Director, McGill University Museums, represented the Redpath Museum, where the Lyman collections had been housed until late 1961, when they were moved to Macdonald College. The members of the staff of the Department of Entomology, Macdonald College, and of the Museum also attended, including: Dr. and Mrs. E. M. DuPorte; Dr. and Mrs. E. J. LeRoux; Dr. and Mrs. J. E. McFarlane; Dr. and Mrs. R. N. Jefferson; Dr. and Mrs. L. A. Fischer; Dr. Asket Singh (now returned to India); Miss D. E. Johnstone and Miss B. I. Robinson.

Dr. Kevan, Chairman of the Committee, cut the decorated semi-centennial cake, with a few words to mark the occasion. All those present signed the minute book of the meetings of the Committee for the first 50 years. This book will now be retired and bound as a permanent record of the first half-century of the Lyman Entomological Museum.

Other events, in connection with the semi-centennial, were: a symposium on insect taxonomy held December 30, in conjunction with the AAAS meetings in Montreal; a visit to the Museum by AAAS delegates on the evening of December 30; and publication of a commemorative issue of "The Canadian Entomologist", in which all papers originated from the Museum or were on material belonging to the Museum.

GUIDANCE COUNSELLORS HEAR ABOUT AGRICULTURE

High School Principals and Vocational Guidance Counsellors from Quebec and Eastern Ontario gathered at Macdonald College on December 11 to learn of career opportunities for graduates of the Faculty of Agriculture, and the School of Household Science.

With the traditional sources of agricultural students unable to meet the increasing demand, the College is looking to urban schools to supply some of their best for the challenging opportunities ahead.

MAPLE DAY

Plan to attend the seminar at Macdonald College on maple production in Quebec at 10:00 a.m. Thursday, March 11. An interesting program has been prepared which includes addresses, tours and dinner.

Receiving his "Friend of Expo" pin is Dr. E. C. Steppler of Montreal, President of the Agriculture Institute of Canada and Chairman, Dept. of Agronomy, Macdonald College, P.Q. Andrew Kniewasser, right, General Manager of the 1967 World Exhibition in Montreal, presented the pin recently when Dr. Steppler attended a meeting of the Advisory Committee on Agriculture for Expo 67.

BOOK REVIEW

Northern Affair
by Findlay, David Kilpatrick
Toronto, McClelland and Stewart, (c 1964) price $3.95

SURVIVAL in the Arctic is the adventurous theme of D. K. Findlay's story about a scientific expedition to Baffin Bay.

A six member team of archaeologists, ornithologists and explorers, three of whom are women, are landed by helicopter on a remote island to investigate an "inukvik." This great rock, shaped as a man, was probably erected by an ancient Eskimo tribe whose history has disappeared in the ice and snow of the Arctic.

The beauty of the "Midnight Sun" on the vast expanses of water and ice, the birth of ice-bergs and the unexpected blooming of brilliant arctic flowers are beautifully described.

A field trip is made to a remote island and by degrees it becomes apparent that the team is stranded for the winter without means of transportation, food or warm clothing. The fear of the primitive land begins to affect each member. Some are able to adapt to the Eskimo philosophy and way of life; in all the surface sophistication of civilization is stripped away, revealing their true characters.

D. K. Findlay is a Canadian who is well known for his short stories which have appeared in many Canadian and American magazines including "Maclean's" and "Saturday Evening Post."

Reviewed by B. E. Little

(continued from page 17)

fallout. A fallout shelter can make the difference between severe illness or death.

3. Know the warning signals and have a battery-powered radio.
4. Have a shelter to go to.
5. Have fourteen days emergency supplies.
6. Know how to prevent and fight fires.
7. Know first aid and home nursing. St. John's Ambulance and the Red Cross sponsors these courses. See that at least two members of your family are trained and that a first aid kit is always available. In a disaster situation medical assistance will be in short supply. Your family must be trained to be self-reliant.
8. Know emergency cleanliness.
9. Know how to get rid of radioactive dust.
10. Know your municipal emergency plan. Every municipality must have an emergency plan and every resident in the municipality should know what that plan is.
11. Have a family plan. When your family plan is complete, write it down on paper. Review it every month with your family so that each person will know his duty in case of disaster. If you never need to use your plan, you lose nothing; but if you never learn what you need to know, you may lose everything. Immunization against communicable diseases is a prerequisite for every member of the family, as disease spreads rapidly after disaster.

If a disaster strikes, only a trained person, an informed community and a disciplined nation can bring order out of chaos.

As Demonstrated on the Ed. Sullivan Show — Aug. 16

I'LL MAKE YOU A MENTAL WIZARD IN ONE EVENING!

Yes! Here at last is your chance to gain the THINKING-MACHINE MIND you've always dreamed about . . . so easily and quickly that you'll be astounded . . . and actually do it without risking a penny!

By HARRY LORAYNE

Let me explain! I don't care how poorly organized your mental powers are today — how difficult it is for you to concentrate . . . how bad your memory may be . . . how much a prisoner you are of crippling mental habits . . . **how long it takes you each morning to get your mind going with adding-machine speed and certainty! I BELIEVE THAT YOUR MIND IS WORKING TODAY AT ONLY 5% TO 10% OF ITS TRUE POWER — SIMPLY BECAUSE YOU DON'T KNOW THE RIGHT WAY TO FEED IT DIRECTIONS!**

Simply because you don't know the right way to feed your mind problems — **so clearly and logically that those problems half-solve themselves before you even touch them!**

Simply because you don't know the right way to feed your mind facts, figures and names and faces — **so they burn themselves into that mind in such picture-form that you remember them forever!**

Simply because you don't know the right way to feed your mind a FULL CHARGE OF ENTHUSIASM — so that it revs up instantly every morning . . . so that it operates at full power, not for just a few brief minutes each day. BUT FOR AS MUCH AS 8 TO 10 FULL HOURS AT A STRETCH!

Mind Power Is A Trick! I'll Teach It To You In One Weekend!

Yes! Problem-solving is a trick! Concentration is a trick! Memory is a trick! Habit-breaking is a trick! And, above all, generating the will power that means success IS A TRICK! Mind power can be made to order — you don't have to be born with it! The secret of a fast-acting, full-power, THINKING MACHINE MIND is as simple as tying your shoelace! **And I'm willing to prove it to you without your risking a penny! Here's how!**

All I ask from you is this. Let me send you — at my risk — one of the most fascinating books you have ever read. When this book arrives, set aside a few moments each day from the following weekend. Glance through just one chapter. **And get ready for one of the most thrilling weekends of accomplishment in your entire life!**

The Very First Hour After You Pick Up This Book, You Will Perform A Feat Of Mind Power That Will Astound Your Friends!

What you are going to do in that very first hour you receive the book, is this. Turn to page 144. Read three short pages — no more! And then, put down the book. Review in your own mind the one simple secret I've shown you — **how to feed facts into your mind so that they stay there — permanently — as long as you wish!**

Then put this simple trick to work for you — that very same hour!

Call in your family or friends. Ask them to make a list of any TWELVE facts, names or objects they wish, as fast as they wish. Have them write down the list so they won't forget it! **But, as they give you each fact, YOU are going to perform a simple mental trick on that fact, that will burn it into your mind, IN PERFECT ORDER, as long as you wish!**

And then — INSTANTLY AND AUTOMATICALLY—you are going to repeat that list, backwards and forwards, in perfect order, exactly as if you were reading that list in your friend's hand! And you are going to have one of the most exciting moments of your life, as you watch the expression on those people's faces as you reel off those facts as though they were flashing on a screen on the inside of your memory!

Thrilling? Yes! **But also one of the most profitable secrets you will ever learn.** For that list of twelve facts can just as easily be an appointment schedule — with each appointment flashing automatically into your mind at just the right time and place that you need it! Or a shopping list — or the outline of a speech — or a sales presentation — or the highlights of an important article — or a list of things that have to be done in perfect order!

Any one of them — they flash into your mind automatically, as though you pressed a button! **And this astonishing mental gift — which will serve you every day for the rest of your life — is yours from the very first hour that you pick up this book!**

And yet it's only the beginning!

Which Areas Of Your Mind Do You Want To Strengthen In A Single Weekend? Concentration, Will-Power, Self-Confidence, Habit-Breaking!

Yes! From this moment on, in less than one thrilling hour a day, you begin testing the wonder-working techniques of Automatic Organization on every untrained corner of your mind! You begin breaking through mental barriers—mental limitations that have been blocking you for years!

You begin tapping the buried powers of your own mind . . . powers that you have glimpsed before in brief flashes . . . now brought to the surface — organized with simple formulas to double their potency — and placed forever at your beck and call, ready to go to work for you at the blink of an eyelash!

For example —

DO YOU WANT TO DEVELOP "STEEL-SHUTTER CONCENTRATION" — OVERNIGHT?

Then turn to page 85 . . . master one simple exercise . . . and thrill to your ability to absorb huge amounts of information — easily and swiftly **— even in a room filled with half a dozen howling children!**

DO YOU WANT TO DEVELOP "X-RAY EYES" — POWERS OF OBSERVATION THAT AMAZE YOUR FRIENDS?

Then turn to page 136 . . . play three fascinating games . . . and then startle your friends, time and time again, by your ability to spot revealing details — put together hidden pieces of evidence — **that they never even dreamed were there at all!**

DO YOU WANT TO SEE HOW EASY IT IS TO REPLACE BAD HABITS WITH HABITS YOU CAN BE PROUD OF?

Then get ready for the revelation of your life on page 103 . . . that replaces agony with fun . . . **that actually lets your bad habits break themselves without your hardly touching your will power.**

YES! AND DO YOU WANT TO GENERATE ENTHUSIASM . . . FRIENDLINESS . . . PERSONALITY AT AN INSTANT COMMAND?

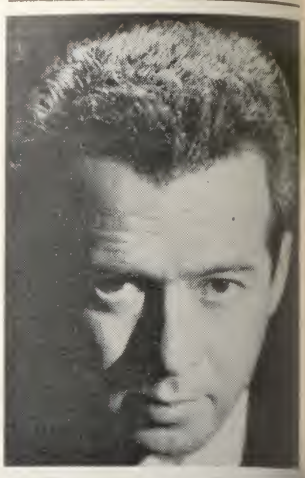
Then read every word starting on page 165! Learn how to overcome shyness and fear, automatically . . . make anyone like you . . . dissolve opposition with as little as a single word . . . earn both trust and respect from everyone you meet — **and keep them — for good!**

Read It For Ten Days — Entirely At Our Risk!

And this still is just the beginning! What Harry Lorayne has described to you on this page is just a small sampling of the information packed into his amazing new book, SECRETS OF MIND POWER — now available only through this article!

Here at last is a practical, fascinating, easy-to-read book on improving the powers of your mind **that really works!** Its author, Harry Lorayne, has been called by experts "the man with the most phenomenal memory in the world!" He has already shown over 250,000 men and women, all over America, how they can **achieve startling improvements in their memories overnight, with just a few minutes work!**

But this fabulous Push-Button Memory Technique is only one small part of Harry Lorayne's great new book! Here — in addition to Memory — are complete "Push-Button Sections" on Observation, Concentration, Enthusiasm, Will-Power, Idea-Creating, Rapid-Learning, Time-Saving,



Clear-Thinking, Personality, Friend-Making, Public-Speaking, Worry-Control, Conquest of Fear, and many more!

Yes! Here are dozens of simple techniques that enable you to overcome crippling emotions, and keep your thoughts headed straight for each goal! Showing you how to think clearly and effectively in any situation — make decisions without agonizing delays — learn vital facts and figures at a glance — work at full mental power, all day long, for weeks and even months on end!

Here are tested, and proven "Thought-Stimulators" that streamline your mind — develop your creative imagination — increase your daily output — help you make time for everything you have to do!

Here are "Confidence-Generators," that let you laugh off worries and fears — make your own good luck — keep other people from taking advantage of you — turn bad breaks into opportunities — yes, even sharpen your sense of humor and improve your ability to speak well, whether in private conversation or before a crowd of hundreds!

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The price of this fascinating, one volume Mind-Power Encyclopedia is $4.98 — far less than similar books that do not do its job as well!

But even more important is its unconditional guarantee! We realize that this book is of no value to you unless it does everything we have promised you! Therefore, we allow you to read it at our risk for ten full days.

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☐ cash ☐ cheque ☐ money order.
☐ Ship C.O.D. I will pay $4.98 plus C.O.D. cost.

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